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What we claim is:

1. A process for the synthesis of amorphous atorvastatin calcium characterized by dissolving the salt of the formula (I) of atorvastatin acid formed with a basic amino acid

- wherein the meaning of R is the compound of formula (II) or (III)

$$H_3N^{\uparrow}$$
 OH (II)

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- in a mixture of water and a water miscible organic solvent, adding an aqueous solution of a water soluble calcium salt to the solution and isolating the so obtained entirely amorphous atorvastatin calcium of high purity by filtration.

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2. The process according to claim 1, characterized by using calcium acetate or calcium chloride as water soluble calcium salt.

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3. The process according to claims 1 and 2, characterized by using methanol, ethanol, isopropanol or acetone as water miscible organic solvent.